Title: HIGH EXPRESSION AND PRODUCTION OF HIGH-SPECIFIC
ACTIVITY RECOMBINA... S-ADENOSYL HOMOCYSTEINASE (SAHH)
AND IMPROVED ASSAY ...OR S-ADENOSYLMETHIONINE (SAM)
First Inventor: Robert M. HOFFMAN, et al.
Application No.: 09/759,990
Docket No.: 31276-20026.00
Sheet 1 of 8

1/8

Figure 1

Title: HIGH EXPRESSION AND PRODUCTION OF HIGH-SPECIFIC
ACTIVITY RECOMBIN... T S-ADENOSYL HOMOCYSTEINASE (SAHH)
AND IMPROVED ASS... FOR S-ADENOSYLMETHIONINE (SAM)
First Inventor: Robert M. HOFFMAN, et al.
Application No.: 09/759,990
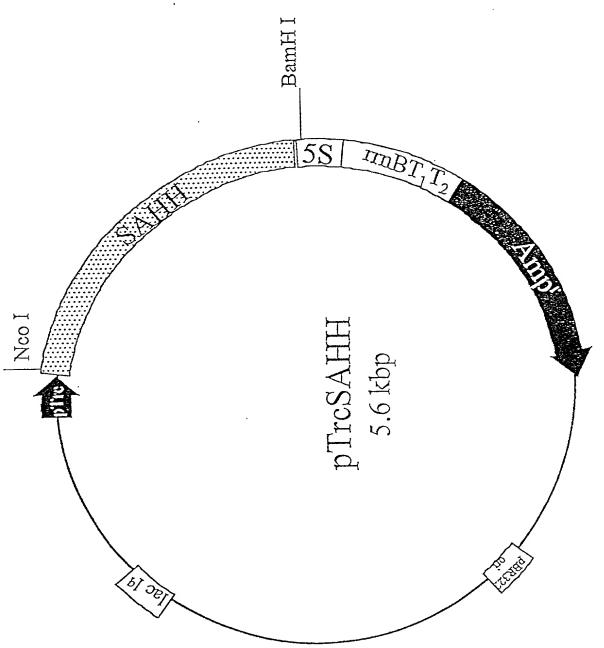Docket No.: 31276-20026.00
Sheet 2 of 8
2/8

Figure 2

Title: HIGH EXPRESSION AND PRODUCTION OF HIGH-SPECIFIC
ACTIVITY RECOMBINANT S-ADENOSYL HOMOCYSTEINASE (SAHH)
. AND IMPROVED ASS⬤ FOR S-ADENOSYLMETHIONINE (SAM)
First Inventor: Robert M. HOFFMAN, et al.
Application No.: 09/759,990
Docket No.: 31276-20026.00
Sheet 3 of 8
3/8

# Screening of SAHH



Figure 3

Title: HIGH EXPRESSION AND PRODUCTION OF HIGH-SPECIFIC
ACTIVITY RECOMBIN⬤S-ADENOSYL HOMOCYSTEINASE (SAHH)
AND IMPROVED ASSA⬤OR S-ADENOSYLMETHIONINE (SAM)
First Inventor: Robert M. HOFFMAN, et al.
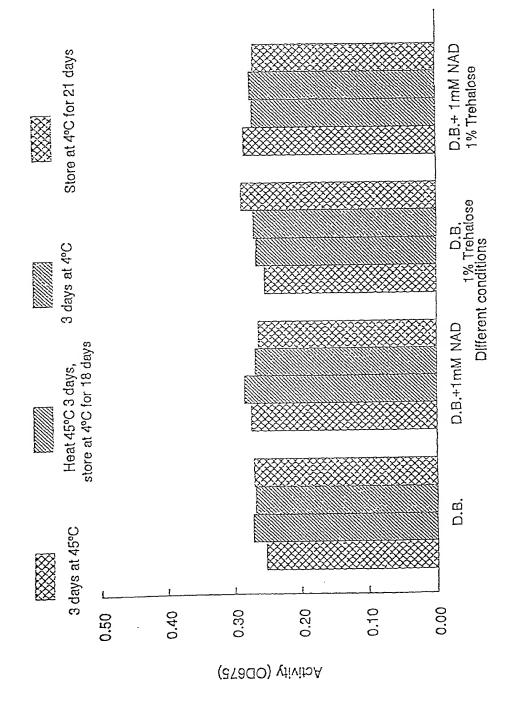Application No.: 09/759,990
Docket No.: 31276-20026.00
Sheet 4 of 8

4/8



Figure 4

Title: HIGH EXPRESSION AND PRODUCTION OF HIGH-SPECIFIC
ACTIVITY RECOMBIN███T S-ADENOSYL HOMOCYSTEINASE (SAHH)
'AND IMPROVED ASS███FOR S-ADENOSYLMETHIONINE (SAM)
First Inventor: Robert M. HOFFMAN, et al.
Application No.: 09/759,990
Docket No.: 31276-20026.00
Sheet 5 of 8

Figure 5

Title: HIGH EXPRESSION AND PRODUCTION OF HIGH-SPECIFIC
ACTIVITY RECOMBIN●● S-ADENOSYL HOMOCYSTEINASE (SAHH)
AND IMPROVED ASSA●● FOR S-ADENOSYLMETHIONINE (SAM)
First Inventor: Robert M. HOFFMAN, et al.
Application No.: 09/759,990
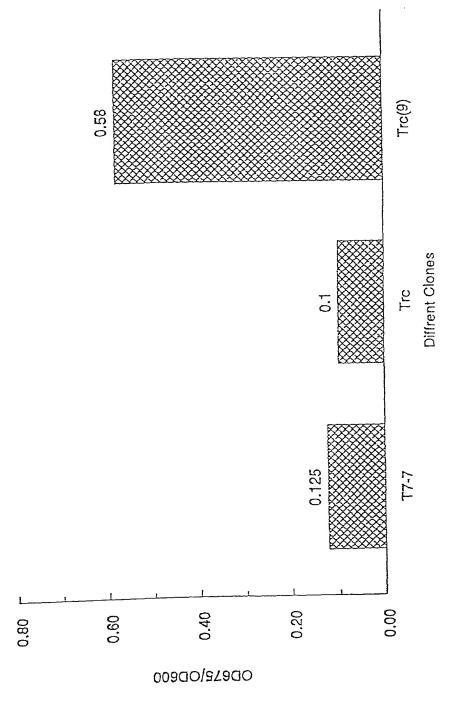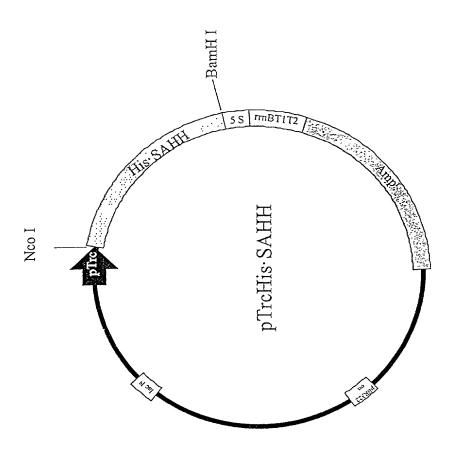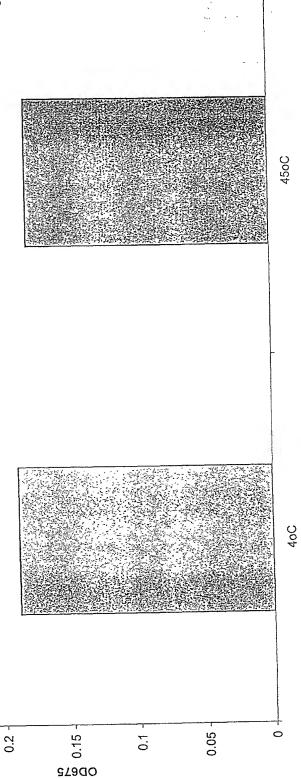Docket No.: 31276-20026.00
Sheet 6 of 8

6/8

99.2% identity in 1461 residues overlap; Score: 1437.0; Gap frequency: 0.0%

```
SAHH-wild    291 ATGGCTTGCAAATCACCTGCTGGTGCTCCATTCGAGTACAGAATTGCCGACATCAACCTC
A/C,          71 ATGGCTTGCAAATCACCTACTGGTGCTCCATTCGAGTACAGAATTGCCGACATCAACCTC
                 ******************** ***************************************

SAHH-wild    351 CATGTTCTCGGCCGTAAGGAACTTACCCTTGCTGAGAAGGAAATGCCAGGTCTTATGGTT
A/C,         131 CATGTTCTCGGCCGTAAGGAACTTACCCTTGCTGAGAAGGAAATGCCAGGTCTTATGGTT
                 ************************************************************

SAHH-wild    411 CTTCGTGAGCGTTATTCCGCTTCTAAGCCATTGAAGGGTGTCAGAATCTCTGGTTCCCTC
A/C,         191 CTTCGTGAGCGTTATTCCGCTTCTAAGCCATTGAAGGGTGTCAGAATCTCTGGTTCCCTC
                 ************************************************************

SAHH-wild    471 CACATGACAGTCCAGACAGCGGTCCTTATTGAGACACTCACAGCTCTTGGTGCTGATGTC
A/C,         251 CACATGACAGTCCAGACAGCCGTCCTCATCGAGACACTCACAGCTCTTGGTGCTGATGTC
                 ******************** ***** ** ******************************

SAHH-wild    531 AGATGGGCTTCCTGCAACATCTTCTCTACACAAGATACAGCCGCTGCTGCTATCGTTGTC
A/C,         311 AGATGGGCTTCCTGCAACATCTTCTCTACACAAGATACAGCCGCTGCTGCTATCGTTGTC
                 ************************************************************

SAHH-wild    591 GGCCCAACAGGCACACCAGAGAAGCCAGCCGGTATCCCAGTCTTCGCCTGGAAGGGCGAA
A/C,         371 GGCCCAACAGGCACACCAGAGAAGCCAGCCGGTATCCCAGTCTTCGCCTGGAAGGGCGAA
                 ************************************************************

SAHH-wild    651 ACACTCCCAGAATACTGGGAGAACACATACCGCGCTCTCACATGGCCAGATGGTCAAGGC
A/C,         431 ACACTCCCAGAATACTGGGAGAACACATACCGCGCTCTCACATGGCCAGATGGTCAAGGC
                 ************************************************************

SAHH-wild    711 CCACAGCAGGTTGTCGATGATGGTGGTGATGCTACACTCCTCATCTCCAAGGGCTTCGAA
A/C,         491 CCACAGCAGGTTGTCGATGATGGTGGTGATGCTACACTCCTCATCTCCAAGGGCTTCGAA
                 ************************************************************

SAHH-wild    771 TTCGAAACAGCCGGTGCTGTCCCAGAGCCAACAGAAGCTGACAACCTCGAATACCGCTGC
A/C,         551 TTCGAAACAGCCGGTGCTGTTCCAGAGCCAACAGAAGCTGACAACCTCGAATACCGCTGC
                 ******************** ***************************************

SAHH-wild    831 GTTCTTGCTACACTCAAGCAGGTCTTCAACCAAGACAAGAACCACTGGCACACAGTTGCT
A/C,         611 GTTCTTGCTACACTCAAGCAGGTCTTCAACCAAGACAAGAACCACTGGCACACAGTTGCT
                 ************************************************************

SAHH-wild    891 GCCGGCATGAACGGTGTGTTTCCGAAGAGACAACAACAGGTGTCCACCGCCTCTACCAGCTC
A/C,         671 GCCGGCATGAACGGTGTGTTTCCGAAGAGACAACAACAGGTGTCCACCGCCTCTACCAGCTC
                 ************************************************************

SAHH-wild    951 GAGAAGGAGGGCAAACTCCTCTTCCCAGCCATCAACGTCAACGACGCTGTTACAAAGTCC
A/C,         731 GAGAAGGAGGGCAAACTCCTCTTCCCAGCCATCAACGTCAACGACGCTGTTACAAAGTCC
                 ************************************************************

SAHH-wild   1011 AAGTTCGATAACATCTACGGCTGTCGCCACTCCCTTATCGATGGTATCAACCGTGCTTCC
A/C,         791 AAGTTCGATAACATCTACGGCTGCCGCCACTCCCTTATCGATGGTATCAACCGTGCTTCC
                 *********************** ************************************

SAHH-wild   1071 GATGTCATGATCGGCGGCAAGACAGCTCTCGTCATGGGTTACGGCGATGTCGGGAAGGGC
A/C,         851 GATGTCATGATCGGCGGCAAGACAGCTCTCGTCATGGGTTACGGCGATGTCGGCAAGGGC
                 ***************************************************** ******

SAHH-wild   1131 TGCGCTCAATCCCTCCGTGGCCAAGGCGCTCGCGTTATCATCACAGAAGTCGACCCTATC
A/C,         911 TGCGCTCAATCCCTCCGTGGCCAAGGCGCTCGCGTTATCATCACAGAAGTCGACCCAATC
                 ******************************************************* ***
```

Figure 6a

Title: HIGH EXPRESSION AND PRODUCTION OF HIGH-SPECIFIC
ACTIVITY RECOMBI●●T S-ADENOSYL HOMOCYSTEINASE (SAHH)
AND IMPROVED ASS●● FOR S-ADENOSYLMETHIONINE (SAM)
First Inventor: Robert M. HOFFMAN, et al.
Application No.: 09/759,990
Docket No.: 31276-20026.00
Sheet 7 of 8

778

```
SAHH-wild   1191 TGCGCTCTCCAGGCTGTCATGGAAGGCTACCAGGTCCGCCGCATCGAGGAAGTCGTCAAG
A/C,         971 TGCGCTCTCCAGGCTGCCATGGAAGGCTACCAGGTCCGCCGCATCGAGGAAGTCGTCAAG
                 ****************  ******************************************


SAHH-wild   1251 GATGTCGATATCTTCGTTACATGCACAGGAAACTGCGATATCATCTCTGTTGACATGATG
A/C,        1031 GATGTCGATATCTTCGTTACATGCACAGGAAACTGCGATATCATCTCTGTTGACATGATG
                 ************************************************************


SAHH-wild   1311 GCCCAGATGAAGGATAAGGCTATTGTCGGTAACATCGGCCACTTCGATAACGAAATTGAT
A/C,        1091 GCCCAGATGAAGGATAAGGCTATTGTCGGTAACATCGGCCACTTCGATAACGAAATTGAT
                 ************************************************************


SAHH-wild   1371 ACAGATGGCCTCATGAAATACCCAGGCATCAAGCACATCCCAATCAAGCCAGAATACGAC
A/C,        1151 ACAGATGGCCTCATGAAATACCCAGGCATCAAGCACATCCCAATCAAGCCAGAATACGAC
                 ************************************************************


SAHH-wildt  1431 ATGTGGGAATTCCCAGATGGCCACGCTATCCTCCTTCTTGCTGAGGGCCGCCTTCTTAAC
A/C,        1211 ATGTGGGAATTCCCAGATGGCCACGCTATCCTCCTTCTTGCTGAGGGCCGCCTTCTTAAC
                 ************************************************************


SAHH-wild   1491 CTTGGTTGCGCTACAGGTCACCCATCTTTCGTTATGTCAATGTCATTCACAAACCAGACA
A/C,        1271 CTTGGCTGCGCTACAGGTCACCCATCTTTCGTTATGTCAATGTCATTCACAAACCAGACA
                 *****  *****************************************************


SAHH-wild   1551 CTCGCTCAGCTCGACCTCTACGAAAAGAGAGGAAATCTCGAGATGAAGGTTTACACACTT
A/C,        1331 CTCGCTCAGCTCGACCTCTACGAAAAGAGAGGAAATCTCGAGAAGAAGGTTTACACACTT
                 *******************************************  ***************


SAHH-wild   1611 CCGAAGCATCTCGATGAAGAAGTCGTTCGCCTCCACCTCGGATCTCTCGATGTCCACCTT
A/C,        1391 CCGAAGCATCTCGATGAAGAAGTCGCTCGCCTCCACCTCGGATCTCTCGATGTCCACCTT
                 *************************  *********************************


SAHH-wild   1671 ACAAAGCTTACACAGAAGCAGGCTGACTACATCAACGTTCCAGTTGAGGGTCCTTACAAG
A/C,        1451 ACAAAGCTTACACAGAAGCAGGCTGACTACATCAACGTTCCAGTTGAGGGTCCTTACAAG
                 ************************************************************


SAHH-wild   1731 TCTGATGCTTACCGTTATTAA
A/C,        1511 TCTGATGCTTACCGTTATTAA
                 *********************
```

---

65.9% identity in 44 residues overlap; Score: 14.0; Gap frequency: 0.0%

```
SAHH-wild    782 CGGTGCTGTCCCAGAGCCAACAGAAGCTGACAACCTCGAATACC
A/C,         682 CGGTGTTTCCGAAGAGACAACAACAGGTGTCCACCGCCTCTACC
                 *****  *   **** *****  ** ** * *** *    ****
```

---

80.0% identity in 20 residues overlap; Score: 12.0; Gap frequency: 0.0%

```
SAHH-wild   1053 GGTATCAACCGTGCTTCCGA
A/C,         674 GGCATGAACGGTGTTTCCGA
                 ** ** *** *** ******
```

Figure 6b

Title: HIGH EXPRESSION AND PRODUCTION OF HIGH-SPECIFIC
ACTIVITY RECOMBINANT S-ADENOSYL HOMOCYSTEINASE (SAHH)
·AND IMPROVED ASSAY FOR S-ADENOSYLMETHIONINE (SAM)
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Application No.: 09/759,990
Docket No.: 31276-20026.00
Sheet 8 of 8
8/8

87.5% identity in 16 residues overlap; Score: 12.0; Gap frequency: 0.0%

```
SAHH-wild    564 GATACAGCCGCTGCTG
A/C,         554 GAAACAGCCGGTGCTG
                 ** ******* *****
```

64.3% identity in 42 residues overlap; Score: 12.0; Gap frequency: 0.0%

```
SAHH-wild   1224 GTCCGCCGCATCGAGGAAGTCGTCAAGGATGTCGATATCTTC
A/C,         710 GTCCACCGCCTCTACCAGCTCGAGAAGGAGGGCAAACTCCTC
                 **** **** ** *   *   ***   ***** * * *  ** **
```

87.5% identity in 16 residues overlap; Score: 12.0; Gap frequency: 0.0%

```
SAHH-wild    774 GAAACAGCCGGTGCTG
A/C,         344 GATACAGCCGCTGCTG
                 ** ******* *****
```

Figure 6c